



PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Yushi AMAKI

Examiner: Janelle

et al.

Combs-Morillo

Serial No.: 10/623,796

Art Unit: 1742

Filed: May 20, 2003

Docket: 108421-00076

For: Aluminum Alloy Material
For Forging And Continuous
Casting Process Therefor

Dated: November 15, 2005

Assistant Commissioner for Patents
Washington, DC 20231

DECLARATION OF Yushi AMAKI
UNDER 37 C.F.R. §1.132

Sir:

I, Kiyotaka TOMA, hereby declares and says that:

(1) I am one of named inventors of the above-identified patent application, U.S. application Serial No. 10/623,796;

(2) I have complete knowledge of the subject matter disclosed in U.S. application Serial No. 10/623,796, filed on May 20, 2003 and have reviewed the applied references, namely US. Patent No. 4,157,728, which was cited in the Office Action dated May 20, 2005;

(3) To establish that the claimed aluminum alloy material for forging having a surface roughness of not more than Ra 17 and that the above-mentioned prior art reference does not have such a surface roughness, the following experimentation was performed;

(4) The experiments performed and reported in this Declaration were conducted by me or under my direct supervision or control;

Experimentation

Test 1

6061 aluminum alloy shown in table 1 attached to the specification was produced by melting. The bottom block was moved downward at a velocity (casting rate) of 150 mm/min by using the casting apparatus shown in Fig. 3 attached to the specification such that the solidification interface of the aluminum alloy material was positioned inside the mold away from the discharge edge shown in Fig. 1B. By performing the above-mentioned process, a columnar billet with a diameter of 83 mm was obtained. During the casting, the casting rate was repeatedly increased and decreased from 150 mm/min.

The surface roughness of the billet was obtained by a surface roughness measuring instrument (made by TOKYO SEIMITSU Co.; Tradename: Surfcom 550AD).

Test 2

Test 2 was performed in the same manner as in Test 1 except that the casting rate was constant at 120 mm/min according to Table 2 of US. Patent No. 4,157,728.

Result

The surface roughness in Test 1 was Ra 17 and the surface roughness in Test 2 was Ra 32.

(5) All statements made herein, of his own knowledge, are true, and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made may be punishable by fine or imprisonment or both, under Section 1001 Title 18 of the U.S. code and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Dated: November 15, 2005

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